

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/Ala Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-025839**Date Inspected:** 12-Jul-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	N/A	<b>CWI Present:</b>	Yes	No			
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A
<b>Bridge No:</b>	34-0006	<b>Component:</b>	OBG Components				

**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance Inspector (QA Inspector) George Goulet was present during the times noted above for observations relative to the work being performed.

**Heavy Dock**

Caltrans and ABF have agreed to conduct visual inspection (VT) and magnetic particle inspection (MT) of welds as part of a special joint inspection program. In response to ABF NDT Inspection Notification Sheets (NWIT) #09743 for MT of the following:

This QA Inspector performed random VT and then MT of approximately 15% of the area previously tested and accepted by ABF Quality Control personnel. This QA Inspector generated an MT report for this date and provided a turnover to dayshift personnel for tracking of these welds. The members were identified as follows:

OBG Segment 14W, SEG3020D. The weld designations reviewed were: 343, 344. No apparent VT or MT indications were observed. ABF personnel reported no apparent VT or MT indications were observed in weld designations 337, 338, also listed on NWIT #09743. No apparent VT indications were observed by this QA Inspector and no MT was performed by this QA Inspector. Weld designations SEG3020D-304, 341, 334, 335, 331, 332, 328, 329, 325, 326 were also listed on NWIT #09743 and ABF personnel reported no apparent VT or MT indications were observed. However, these welds had rough, irregular surfaces in and at the cope holes requiring grinding and paint had not been removed within 25mm of several of the welds. This QA Inspector waited with ZPMC QC Zhang Lin while a ZPMC worker with grinding tools was trying to repair the cope holes. However the worker showed us that the grinding tool he needed to rewpairs the cope holes was broken. The noted

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welds were rejected by this QA Inspector based on VT.

OBG Segment 14W, SEG3020V. ABF Representative, known only to this QA Inspector as Mr. He, would only provide the area to be inspected with a wave of his hand from approximately 6 meters to 8 meters away and did not provide this QA Inspector with weld designations to be reviewed. The area appeared to be the horizontal I-rib stiffener hold-back welds on the full-height floor beam (FB) at panel point 125 where they meet the north longitudinal diaphragm (LD) and the LD horizontal stiffener hold-back welds near the same corner. Mr. He reported that no apparent VT or MT indications were observed in the FB I-rib hold-back welds or the LD I-rib hold-back welds. This QA Inspector began performing VT of these welds even though they had not yet been identified by ABF Representative Mr. He, who spoke no English. Upon VT of these welds, this QA Inspector observed all the welds had rough, irregular surfaces in and at the cope holes requiring grinding and paint had not been removed within 25mm of several of the welds. One of the welds was not complete as it stopped approximately 10mm to 15mm short of the cope hole. At the termination end of the I-rib to LD hold-back welds, the LD I-rib welds were comingled with the FB I-rib to LD welds at the ends of the FB I-ribs. Several of the welds appeared to display overlap and irregular weld profiles. When this QA Inspector informed QA Representative Mr. He that several of the welds required grinding, QA Representative Mr. He informed this QA Inspector that the inspection was cancelled and he immediately departed from Segment 14W.

This QA Inspector also randomly observed the following on the heavy dock in response to Bolting Inspection Notification Sheet No. 00687:

OBG Segment 14E, FL3 area bottom plate: ZPMC workers performed final ASTM A325M bolt tightening verification of bolt sets noted below at the direction of ZPMC QC Zhang Lin (QC1) using ZPMC calibrated wrench #X02-666. No less than 10% of the ASTM A325 bolt sets at each connection were torque tested. QC1 provided this QA Inspector with the following information regarding the bolt sets installed at this location. This QA Inspector observed ZPMC's Bolt Test Log for SFOBB (RoCap list), listing the RoCap Set numbers, bolt set size, and the NM test result for torque tightening purposes. The information presented by QC1 and listed below appeared to this QA Inspector to match the RoCap list as follows:

740 bolt sets - RC Set No. DHGM240121 – M24x80 – test result 487NM

594 bolt sets - RC Set No. DHGM240119 – M22x70 – test result 427NM

The torque of the above noted bolt sets was verified by torque testing with the above noted calibrated wrench with the wrench setting displayed as 500NM at the direction of QC1. Based on the information above this concurred with QC1 for the issuance of green tag numbers.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### Summary of Conversations:

As noted above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or

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remedial efforts please contact Eric Tsang, 150-0042-2372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Goulet, George	Quality Assurance Inspector
<b>Reviewed By:</b>	Riley, Ken	QA Reviewer

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